

# LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

## Volume 5 | Technical Appendices

CFA26 | Washwood Heath to Curzon Street

**Baseline (SV-002-026)**

Sound, noise and vibration

November 2013

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Department  
for Transport

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# Appendix SV-002-026

Environmental topic:	Sound, noise and vibration	SV
Appendix name:	Baseline	002
Community forum area:	Washwood Heath to Curzon Street	026

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# 1 Introduction

## 1.1 Structure of the sound, noise and vibration appendices

- 1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant policy and methodology (Volume 5: Appendix SV-001-000). This relates to the sound, noise and vibration assessment for all community forum areas.
- 1.1.2 For the Washwood Heath to Curzon Street area (CFA26), the other three sections are as follows:
- baseline sound, noise and vibration (Volume 5: Appendix SV-002-026) (this appendix);
  - construction sound, noise and vibration (Volume 5: Appendix SV-003-026); and
  - operational sound, noise and vibration (Volume 5: Appendix SV-004-026).
- 1.1.3 Maps referred to within this appendix are contained in the Volume 5 sound noise and vibration map book.
- 1.1.4 This appendix includes details of the existing and future baseline sound environment within the area. It provides details of measurements and any other data collection which has been undertaken in order to obtain existing and future baseline sound levels.

## 1.2 Existing acoustic environment

- 1.2.1 The existing baseline sound environment for this area is mixed, although as a heavily urbanised area, transportation sound sources dominate in most areas. There are a number of major railway routes, running into Birmingham New Street, Moor Street and Birmingham Snow Hill stations.
- 1.2.2 The M6 cuts through the north of the area, and the existing sound levels within the area are also influenced by a number of major A-roads and very busy B-roads. To the east of the area, there is some influence from aircraft movements from Birmingham Airport.
- 1.2.3 The area includes a mix of residential areas, some of which are very high density, and areas of intense industrial and commercial activity bringing significant local industrial sound sources. Towards the city centre there are major educational institutions including Aston University, Birmingham City University and Matthew Boulton College and major entertainment, leisure and shopping areas, including current and proposed development in the Birmingham Eastside area.
- 1.2.4 Few locations experience very low existing baseline sound levels due to the large number of major transportation sound sources, although sound levels drop significantly during the night time, particularly in more residential areas.

## 2 Scope, assumptions and limitations

### 2.1 Sound and vibration sensitive receptors

2.1.1 Within the Washwood Heath to Curzon Street area, 172 assessment locations have been defined to represent all identified sound and vibration sensitive receptors within the spatial scope. The assessment locations are shown on the detailed maps in Volume 5: Map Series SV-03 and SV-04. Within this area, the following types of sound and vibration sensitive receptors have been identified:

- residential areas;
- education facilities;
- community centres and meeting facilities;
- places of worship;
- healthcare facilities;
- offices; and
- commercial premises.

### 2.2 Local engagement

2.2.1 Meetings have been held with representatives of Birmingham City Council (BCC) regarding the approach which has been taken to baseline monitoring within this area, the identification of noise and vibration sensitive receptors, the selection of assessment location and baseline sound levels at these assessment locations.

2.2.2 Changes suggested during these meetings have influenced the assessment locations used and the monitoring undertaken and reported in this document.

2.2.3 Local engagement through community forum meetings has also provided the opportunity for local groups to suggest appropriate baseline sound monitoring locations. Any suggestions received from these groups have been considered and influenced the monitoring undertaken and reported in this document.

### 2.3 Existing baseline sound monitoring locations

2.3.1 Maps showing the baseline sound monitoring locations and assessment locations within this area are included in Volume 5: Map Series SV-03 and SV-04.

2.3.2 Throughout this area, there are a small number of non-residential receptors, where land access and/or secure monitoring locations have not been available to allow for monitoring of baseline sound levels. At these locations, baseline levels have been based on values obtained from the Birmingham Noise Map<sup>1</sup>. Local baseline sound measurements have

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<sup>1</sup> Birmingham Noise Map (2005), electronic data provided by and used with permission of Birmingham City Council.

been used to validate the use of the Birmingham Noise Map and indicate that the data from this source are suitable for the purpose of the assessment at these locations.



## 3 Environmental baseline

### 3.1 Existing baseline data collection methodology

- 3.1.1 The overall approach to baseline data collection for sound noise and vibration is described in Volume 5: Appendix SV-001-000.
- 3.1.2 Over the Washwood Heath to Curzon Street area, a large number of baseline sound measurements have been undertaken. These have been classified as follows:
- long-term measurements – unattended measurements of several days duration;
  - medium-term measurements – attended measurements of several hours duration (generally repeated at different times of day); and
  - short-term measurements – attended measurements typically of 30 minutes duration (generally repeated at different times of day).
- 3.1.3 A total of 101 baseline sound monitoring locations have been used within this area, with further measurements from just outside of the area also being used to provide information on baseline sound levels.
- 3.1.4 Sound monitoring was carried out in the Bromford and Ward End area, generally in the area of Drews Lane to the west of Bromford Lane. Short-term monitoring was carried out at eight locations on publically accessible land. Some of these were monitored simultaneously in pairs. All these measurements were carried out simultaneously with a long-term, seven day, monitoring location in the garden of a residential property on Bromford Road close to Bromford Lane. The long-term monitoring location lies in the neighbouring CFA of Castle Bromwich and Bromford.
- 3.1.5 An additional long-term monitoring location was used in a residential garden to the north of Drew's Lane. This has been used to provide a 24-hour time history to allow calculation of daytime and night time (16-hour and 8-hour) sound levels at properties in this area from the short-term measurements.
- 3.1.6 Sound monitoring in the Washwood Heath area was carried out at twelve short-term monitoring sites distributed in the residential area north of Washwood Heath Road between Common Lane in the east and the Arley Road junction in the west. These short-term measurements on public access land were carried out simultaneously with a long-term, 8 day, location in the garden of a house on Common Lane, to allow good correlation between sites. Additional long-term monitoring was also undertaken at a second property on Common Lane and in a residential garden to the north of Warren Road. Both of these measurements have been used to provide a 24-hour time history to allow calculation of daytime and night time (16-hour and 8-hour) sound levels at properties in these areas from the short-term measurements nearby.
- 3.1.7 To the south of this area sound measurements were carried out throughout Saltley. Measurements were undertaken at a number of locations in the area of Adderley Road from Clayton Road in the north almost to Arden Road in the south and in the residential area to the east simultaneously with a long-term measurement at a residential property

on Adderley Road. The short-term measurement locations were each visited during both daytime and night time. One of the theses was situated on the canal side, near a disused residential property and a second adjacent to a primary school.

- 3.1.8 In the Nechells area sound measurements were undertaken in the area north east of A47 Heartlands Parkway between Cuckoo Road and the southern end of Mount Street. A single long-term measurement was carried out on at a residential property on Aston Church Road and the 24-hour time history from this site has been used to calculate the daytime and night time (16-hour and 8-hour) baseline sound levels from the short-term monitoring locations in this area. Short-term measurements were taken out at eight locations, day and night.
- 3.1.9 In the Vauxhall and Duddeston area sound monitoring was carried out in the residential area bordered by Nechells Parkway, Lawley Middleway, and the Birmingham and Derby line. Eight measurement locations were used and short-term daytime and night time measurements were made at each of these simultaneously with a single long-term measurement location situated close to the West Midlands Fire Headquarters.
- 3.1.10 In the central area of Birmingham in the vicinity of Curzon Street, short-term daytime sound measurements were made at eleven locations in the Digbeth, Park Street, Moor Street, Curzon Street and Jennens Road area. At each of these locations short-term daytime and night time measurements were made simultaneously with a single long-term measurement location located on Allison Street.
- 1.1.5 Throughout this area, at a small number of non-residential receptors, where land access and/or secure monitoring locations have not been available to allow for monitoring, baseline levels have been based on values obtained from the Birmingham Noise Map. In order to validate that the data obtained from this source is applicable, comparisons have been undertaken at nearby locations and between values from the Birmingham Noise Map and measured existing sound levels. These comparisons have confirmed that in the areas of interest the predicted noise levels from the Birmingham Noise Map remain a good estimate of existing baseline sound levels.

## 3.2 Existing baseline sound levels

- 3.2.1 From the measurements described in Section 3.1, baseline sound levels have been ascertained for each assessment location within this area. These levels are presented in terms of the following key sound indicators:
  - Baseline levels used for the operational sound assessment
    - $L_{pAeq,16hr\text{ weekday}}$  daytime (07:00-23:00) sound pressure level;
    - $L_{pAeq,8hr\text{ weekday}}$  night-time (23:00-07:00) sound pressure level;
    - arithmetic average of  $L_{pAFmax,5min}$  night-time sound pressure level; and
    - highest  $L_{pAFmax,5min}$  night-time sound pressure level.
  - Baseline levels used for the construction sound assessment

- daytime  $L_{pAeq}$  sound pressure level (Monday to Friday 07:00-19:00; Saturday 07:00-13:00);
- evening / weekend  $L_{pAeq}$  sound pressure level (Monday to Friday 19:00-23:00; Saturday 13:00-23:00; Sunday 07:00-23:00);
- night-time  $L_{pAeq}$  sound pressure level (Monday to Sunday 23:00-07:00);

1.1.6

These values are presented in Table 1. The data source coding included within this table details how the baseline sound levels allocated to each assessment location have been derived. This coding is summarised in Table 2 and explained in detail in Volume 5: Appendix SV-001-000.

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Table 1: Existing baseline sound levels <sup>2</sup>

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
35612	Curzon Street, Birmingham	WM3608	53.3	48.9	60.1	61.2	56.2	50.7	50.3	2,A,ii,b
35848	Network Park Industrial Estate, Duddeston Mill Road, Saltley, Birmingham	Birmingham Noise Map and WM3412	67.0	64.0	66.4	68.7	67.0	67.0	64.0	6,A,i,c
35948	Network Park Industrial Estate, Duddeston Mill Road, Saltley, Birmingham	WM3412	58.2	54.8	66.4	68.7	58.6	56.1	54.7	2/3,A,ii,b
36091	Duddeston Mill Road, Vauxhall, Birmingham	Birmingham Noise Map and WM3412	74.0	69.0	66.4	68.7	74.0	74.0	69.0	6,A,i,c
36117	Arden Road, Saltley, Birmingham	WM3408, Birmingham Noise Map and WM3407	51.8	45.0	57.7	75.2	52.2	49.6	45.0	Day 2,A,i,b; Night 6,A,i,c
36358	Mill Burn Way, Birmingham	WM3202	56.9	49.0	58.2	67.8	57.4	56.9	49.0	4,A,ii,c
36618	Moor Street Queensway, Birmingham	WM3605	68.7	65.1	75.8	79.1	71.6	66.1	66.5	2,A,ii,b
36787	Trevor Street Industrial Estate, Trevor Street, Birmingham	WM2905	64.8	56.6	70.0	72.0	65.5	62.7	56.6	3,A,ii,b

<sup>2</sup> Note that for locations where data have been obtained from the Birmingham Noise Map no L<sub>pAFmax</sub> noise data is available.

<sup>3</sup> Table 2 provides a data source coding key.

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
37341	Duddeston Mill Road Trading Estate, Duddeston Mill Road, Saltley, Birmingham	Birmingham Noise Map and WM3407	67.0	65.0	57.7	75.2	67.0	67.0	65.0	6,A,i,c
37360	Saltley Business Park, Dorset Road, Saltley, Birmingham	Birmingham Noise Map and WM2905	64.0	57.0	70.0	72.0	64.0	64.0	57.0	6,A,i,c
37463	Cranby Street, Birmingham	Birmingham Noise Map and WM3412	65.0	57.0	66.4	68.7	65.0	65.0	57.0	6,A,i,c
37790	Boulton Business Units, Nechells Place, Birmingham	Birmingham Noise Map and WM9604	62.0	55.0	57.0	74.3	62.0	62.0	55.0	6,A,i,c
37938	Vauxhall Road, Birmingham	WM3501	55.6	50.8	60.5	85.2	58.5	52.9	51.1	1,A,ii,a
38276	Temple Row, Birmingham	Birmingham Noise Map and WM3605	55.0	48.0	75.8	79.1	55.0	55.0	48.0	6,A,i,c
38592	Landon Street, Birmingham	Birmingham Noise Map and WM3201	62.0	59.0	60.2	65.3	62.0	62.0	59.0	6,A,i,c
40462	Allison Street, Birmingham	WM3604	59.5	56.6	73.9	79.5	62.5	57.0	57.9	2,A,ii,b
40642	Masshouse Plaza, Birmingham	WM3607	63.2	57.9	74.3	81.5	66.1	60.7	59.3	2,A,ii,b

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			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
40791	Oxford Street, Birmingham	Birmingham Noise Map and WM3604	60.0	54.0	73.9	79.5	60.0	60.0	54.0	6,A,i,c
40917	Bordesley Street, Birmingham	WM3601	57.3	52.5	64.3	86.0	60.2	57.3	56.3	1,A,ii,a
41264	Fazeley Street, Birmingham	Birmingham Noise Map and WM3601	72.0	63.0	64.3	86.0	72.0	72.0	63.0	6,A,i,c
41354	New Bartholomew Street, Birmingham	WM3601	57.3	52.5	64.3	86.0	60.2	57.3	56.3	1,A,i,a
41588	Andover Street, Birmingham	Birmingham Noise Map and WM3603	74.0	68.0	77.1	79.3	74.0	74.0	68.0	6,A,i,c
41993	Park Street, Birmingham	WM3603	62.8	61.0	77.1	79.3	65.7	60.2	62.4	2,A,ii,b
42018	Digbeth, Birmingham	WM3605	68.7	65.1	75.8	79.1	71.6	66.1	66.5	2,A,ii,b
42114	New Street, Birmingham	Birmingham Noise Map and WM3605	59.0	52.0	75.8	79.1	59.0	59.0	52.0	6,A,i,c
42269	Carrs Lane, Birmingham	WM3606 and WM3607	62.6	57.9	74.3	81.5	65.5	60.0	59.3	2,A,ii,b
42326	Dale End, Birmingham	Birmingham Noise Map and WM3607	68.0	60.0	74.3	81.5	68.0	68.0	60.0	6,A,i,c

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			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
42359	High Street, Birmingham	Birmingham Noise Map and WM3607	67.0	59.0	74.3	81.5	67.0	67.0	59.0	6,A,i,c
44620	Jennens Road, Birmingham	WM3611	61.0	53.2	70.6	74.3	63.9	58.4	54.6	2,A,ii,b
45208	Jennens Road, Birmingham	Birmingham Noise Map and WM3610	66.0	58.0	74.9	77.6	66.0	66.0	58.0	6,A,i,c
45252	Bartholomew Row, Birmingham	WM3608	53.3	48.9	60.1	61.2	56.2	50.7	50.3	2,A,ii,b
45327	Curzon Street, Birmingham	WM3609, Birmingham Noise Map and WM3607	61.4	59.0	74.3	81.5	64.0	58.5	59.0	Day 2,A,ii,b; Night 6,A,ii,c
46410	The Priory Queensway, Birmingham	Birmingham Noise Map and WM3607	64.0	56.0	74.3	81.5	64.0	64.0	56.0	6,A,i,c
47091	Garrison Street, Birmingham	WM3201	57.7	51.6	60.2	65.3	58.2	55.4	51.6	4,A,ii,c
48460	River Street, Birmingham	Birmingham Noise Map and WM3604	68.0	60.0	73.9	79.5	68.0	68.0	60.0	6,A,i,c
48773	Fazeley Street, Birmingham	Birmingham Noise Map and WM3601	66.0	60.0	64.3	86.0	66.0	66.0	60.0	6,A,i,c

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48796	Great Barr Street, Birmingham	Birmingham Noise Map and WM3601	58.0	51.0	64.3	86.0	58.0	58.0	51.0	6,A,i,c
48817	Watery Lane Middleway, Bordesley, Birmingham	Birmingham Noise Map and WM3504	73.0	65.0	60.4	69.4	73.0	73.0	65.0	6,A,i,c
49490	Vauxhall Trading Estate, Dollman Street, Birmingham	Birmingham Noise Map and WM3507	69.0	61.0	58.2	63.4	69.0	69.0	61.0	6,A,i,c
49547	Vauxhall Road, Birmingham	WM3503	64.9	60.9	77.0	90.9	67.8	62.2	61.2	2,A,ii,b
49589	Hindlow Close, Birmingham	WM3506	58.5	54.3	74.9	77.3	61.3	55.7	54.6	2,A,ii,b
49725	Ashted Walk, Birmingham	WM3507	49.6	47.7	58.2	63.4	52.4	46.8	48.1	2,A,ii,b
49870	Great Francis Street, Birmingham	WM3506	58.5	54.3	74.9	77.3	61.3	55.7	54.6	2,A,ii,b
49958	Old Railway Yard, Great Francis Street, Birmingham	WM3506	58.5	54.3	74.9	77.3	61.3	55.7	54.6	2,A,ii,b
50110	Dollman Street, Birmingham	Birmingham Noise Map and WM3506	58.0	52.0	74.9	77.3	58.0	58.0	52.0	6,A,i,c
50238	Devon Street, Birmingham	Birmingham Noise Map and WM3507	67.0	60.0	58.2	63.4	67.0	67.0	60.0	6,A,i,c



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50284	Inkerman Street, Birmingham	Birmingham Noise Map and WM3507	58.0	52.0	58.2	63.4	58.0	58.0	52.0	6,A,i,c
50326	Dollman Street, Birmingham	Birmingham Noise Map and WM3507	59.0	56.0	58.2	63.4	59.0	59.0	56.0	6,A,i,c
50586	Windsor Street South, Birmingham	WM3612	55.1	53.0	66.2	72.0	58.0	52.5	54.4	2,A,ii,b
50821	Barrack Street, Birmingham	WM3505 and WM3504	56.9	50.8	60.4	69.4	59.8	54.2	51.1	2,A,ii,b
50998	Duddeston Manor Road, Birmingham	WM3508	55.7	50.7	62.4	69.7	58.5	52.9	51.1	2/3,A,ii,b
51047	Duddeston Manor Road, Birmingham	WM3509	57.6	52.3	66.6	78.5	60.5	54.8	52.6	2/3,A,ii,b
51535	Garrison Street, Birmingham	WM3201	57.7	51.6	60.2	65.3	58.2	55.4	51.6	4,A,ii,c
51605	Garrison Street, Birmingham	WM3201	57.7	51.6	60.2	65.3	58.2	55.4	51.6	4,A,ii,c
51730	Landor Street, Birmingham	Birmingham Noise Map and WM3201	55.0	51.0	60.2	65.3	55.0	55.0	51.0	6,A,i,c
51814	Northumberland Street, Birmingham	WM3501	55.6	50.8	60.5	85.2	58.5	52.9	51.1	1,A,ii,a
51868	Vauxhall Grove, Birmingham	WM3501	55.6	50.8	60.5	85.2	58.5	52.9	51.1	1,A,ii,a
51904	Inkerman Street, Birmingham	WM3506	58.5	54.3	74.9	77.3	61.3	55.7	54.6	2,A,ii,b

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52180	Lawley Middleway, Birmingham	WM3504	61.8	50.8	60.4	69.4	64.7	59.1	51.1	2,A,ii,b
52201	Windsor Street South, Birmingham	WM3505 and WM3504	56.9	50.8	60.4	69.4	59.8	54.2	51.1	2,A,ii,b
52220	Vauxhall Road, Birmingham	WM3504	61.8	50.8	60.4	69.4	64.7	59.1	51.1	2,A,ii,b
52342	Barrack Street, Birmingham	WM3505 and WM3504	56.9	50.8	60.4	69.4	59.8	54.2	51.1	2,A,ii,b
52360	Vauxhall Road, Birmingham	WM3503	64.9	60.9	77.0	90.9	67.8	62.2	61.2	2,A,ii,b
52398	Penn Street, Birmingham	WM3608	53.3	48.9	60.1	61.2	56.2	50.7	50.3	2,A,ii,b
52502	Lawley Middleway, Birmingham	Birmingham Noise Map and WM3602	77.0	72.0	67.0	73.2	77.0	77.0	72.0	6,A,i,c
53526	Bloomsbury Walk, Birmingham	Birmingham Noise Map and WM2905	69.0	61.0	70.0	72.0	69.0	69.0	61.0	6,A,i,c
53805	Melvina Road, Birmingham	WM3107 and Birmingham Noise Map and WM2905	72.4	64.0	70.0	72.0	73.0	74.2	64.0	Day 4,A,ii,c; Night 6,A,ii,c
53993	Melvina Road, Birmingham	WM3108 and Birmingham Noise Map and	73.7	65.0	70.0	72.0	70.1	71.4	65.0	Day 4,A,ii,c; Night

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
		WM2905								6,A,ii,c
54833	St. Saviours Road, Birmingham	WM3405	55.7	50.2	65.8	75.3	56.0	53.5	50.1	2,A,ii,b
54867	George Arthur Road, Birmingham	WM3401	53.6	47.6	59.1	80.5	53.9	51.4	47.5	1,A,ii,a
55784	Reginald Road, Birmingham	WM3406	58.0	45.5	64.1	69.5	58.4	55.9	45.4	2,A,ii,b
56716	City View, Birmingham	WM3411	49.1	42.3	56.5	63.4	49.4	46.9	42.2	2/3,A,ii,b
56870	Ashley Gardens, Birmingham	WM3411	49.1	42.3	56.5	63.4	49.4	46.9	42.2	2/3,A,ii,b
57035	Duddeston Mill Road, Vauxhall, Birmingham	Birmingham Noise Map and WM3506	73.0	69.0	74.9	77.3	73.0	73.0	69.0	6,A,i,c
57122	Duddeston Mill Trading Estate, Duddeston Mill Road, Saltley, Birmingham	Birmingham Noise Map and WM3410	63.0	59.0	78.7	88.4	63.0	63.0	59.0	6,A,i,c
57184	Duddeston Mill Trad Estate, Duddeston Mill Road, Saltley, Birmingham	Birmingham Noise Map and WM3407	60.0	58.0	57.7	75.2	60.0	60.0	58.0	6,A,i,c
57220	Adderley Trading Estate, Adderley Road, Birmingham	Birmingham Noise Map and WM3407	57.0	51.0	57.7	75.2	57.0	57.0	51.0	6,A,i,c
57289	Adderley Road, Birmingham	WM3410	70.6	66.0	78.7	88.4	70.8	66.5	65.9	2/3,A,ii,b
57342	Adderley Road, Birmingham	WM3407	63.8	50.2	57.7	75.2	64.2	61.6	50.1	2/3,A,ii,b

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
57363	Crawford Street, Birmingham	WM3412	58.2	54.8	66.4	68.7	58.6	56.1	54.7	2/3,A,ii,b
57381	Duddeston Mill Road, Birmingham	WM3412	58.2	54.8	66.4	68.7	58.6	56.1	54.7	2/3,A,ii,b
57499	Rea Industrial Estate, Inkerman Street, Birmingham	Birmingham Noise Map and WM3410	60.0	55.0	78.7	88.4	60.0	60.0	55.0	6,A,i,c
58294	Wolseley Street, Bordesley, Birmingham	WM3202	56.9	49.0	58.2	67.8	57.4	56.9	49.0	4,A,i,c
58528	Chartist Road, Birmingham	WM2811	67.5	57.0	73.7	77.0	72.0	68.2	56.9	3,A,i,b
58626	Bennetts Road, Birmingham	WM2812	63.5	50.5	58.7	61.3	68.0	64.1	50.3	3,A,i,b
58835	Sandway Gardens, Birmingham	WM2807	51.4	45.5	57.0	63.4	55.9	52.1	45.4	3,A,ii,b
59103	Bennetts Road, Birmingham	WM2812	63.5	50.5	58.7	61.3	68.0	64.1	50.3	3,A,ii,b
59191	Silver Birch Close, Birmingham	WM9602	53.1	47.2	56.4	76.9	57.6	54.7	47.1	1,A,ii,a
59457	Johnson Street, Birmingham	WM2903	51.9	50.8	58.6	61.9	52.6	49.8	51.4	3,A,ii,b
59609	Mount Street, Nechells, Birmingham	WM2908 and WM2904	51.5	49.9	57.7	68.7	52.2	49.4	50.5	3,A,ii,b
59796	Mount Street Business Centre, Mount Street, Nechells, Birmingham	WM2903	51.9	50.8	58.6	61.9	52.6	49.8	51.4	3,A,ii,b
59937	St. Clements Road, Birmingham	Birmingham Noise Map and WM2904	53.0	50.0	57.7	68.7	53.0	53.0	50.0	6,A,i,c

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
60102	Saltley Business Park, Dorset Road, Saltley, Birmingham	Birmingham Noise Map and WM3412	58.0	52.0	66.4	68.7	58.0	58.0	52.0	6,A,i,c
60182	Aston Church Road, Nechells, Birmingham	WM2905	64.8	56.6	70.0	72.0	65.5	62.7	56.6	3,A,ii,b
61166	Washwood Heath Road, Birmingham	WM3403	69.8	61.3	75.1	87.3	70.1	67.6	61.1	2,A,i,b
61503	Adderley Gardens, Birmingham	WM3404	70.6	62.0	79.6	85.9	71.0	68.4	61.9	2,A,ii,b
61830	Washwood Heath Road, Birmingham	WM2806	63.0	59.7	82.8	88.6	67.5	63.7	59.6	3,A,ii,b
62056	Washwood Heath Road, Birmingham	WM3402	64.5	56.9	72.2	77.2	64.8	62.3	56.8	2,A,i,b
62306	Carlton Business Centre, Nechells Place, Birmingham	Birmingham Noise Map and WM2905	70.0	62.0	70.0	72.0	70.0	70.0	62.0	6,A,i,c
62459	Devon Street, Birmingham	Birmingham Noise Map and WM2905	70.0	62.0	70.0	72.0	70.0	70.0	62.0	6,A,i,c
62720	Mainstream Industrial Park, Mainstream Way, Birmingham	Birmingham Noise Map and WM2905	67.0	62.0	70.0	72.0	67.0	67.0	62.0	6,A,i,c
63581	Dunton Trading Estate, Mount Street, Birmingham	Birmingham Noise Map and WM2902	64.0	62.0	62.7	72.7	64.0	64.0	62.0	6,A,i,c
63617	Aston Church Road, Nechells, Birmingham	WM2905	64.8	56.6	70.0	72.0	65.5	62.7	56.6	3,A,i,b

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
64051	Little Clover Close, Birmingham	WM2908 and WM2904	51.5	49.9	57.7	68.7	52.2	49.4	50.5	3,A,i,b
64140	Aston Church Road, Nechells, Birmingham	WM9604	53.6	48.5	57.0	74.3	53.1	50.3	47.5	1,A,ii,a
64317	Aston Church Road, Nechells, Birmingham	WM2905	64.8	56.6	70.0	72.0	65.5	62.7	56.6	3,A,ii,b
64544	Mount Street, Nechells, Birmingham	WM2902	63.5	50.4	62.7	72.7	64.3	50.3	51.0	3,A,ii,b
64548	Aston Church Road, Nechells, Birmingham	WM2901	60.4	48.5	57.7	65.9	61.1	58.2	49.0	3,A,ii,b
64621	Mount Street, Nechells, Birmingham	WM2901	60.4	48.5	57.7	65.9	61.1	58.2	49.0	3,A,ii,b
65458	Hutton Road, Saltley, Birmingham	WM2805	61.1	46.3	67.4	81.3	65.6	61.7	46.2	3,A,i,b
65620	Mainstream Industrial Park, Mainstream Way, Birmingham	Birmingham Noise Map and WM3412	63.0	59.0	66.4	68.7	63.0	63.0	59.0	6,A,i,c
66331	Arden Industrial Estate, Bromford Lane, Washwood Heath, Birmingham	Birmingham Noise Map and WM0503	64.0	61.0	70.1	81.8	64.0	64.0	61.0	6,A,i,c
66445	Star Park South, Heartlands Parkway, Birmingham	WM2905 and WM2907	64.8	60.6	74.2	78.6	65.5	62.7	61.1	3,A,ii,b
66559	Star Park South, Heartlands Parkway, Birmingham	Birmingham Noise Map and WM2907	65.0	63.0	74.2	78.6	65.0	65.0	63.0	6,A,i,c
67190	Warren Road, Washwood Heath, Birmingham	WM2810 and	60.2	49.1	56.2	64.1	62.4	60.8	51.6	2,A,ii,b

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
		WM2803								
67370	Common Lane, Washwood Heath, Birmingham	WM9603	49.3	43.8	51.2	75.8	56.7	56.9	44.2	1,A,ii,a
67381	Coronation Road, Washwood Heath, Birmingham	WM9603	49.3	43.8	51.2	75.8	56.7	56.9	44.2	1,A,ii,a
67399	Pounds Green, Birmingham	WM9603	49.3	43.8	51.2	75.8	56.7	56.9	44.2	1,A,ii,a
67514	Washwood Heath Road, Birmingham	WM2802	61.6	56.1	66.2	71.6	63.8	62.2	58.5	2,A,ii,b
68349	Bennetts Road, Birmingham	WM2808	56.7	51.5	67.4	81.3	61.1	57.3	51.3	3,A,ii,b
68797	Warren Road, Washwood Heath, Birmingham	WM9605	52.4	46.9	55.7	74.2	55.4	55.2	48.6	1,A,ii,a
69064	Aston Church Road, Saltley, Birmingham	WM2814	62.2	56.6	69.3	74.6	66.7	62.8	56.4	3,A,i,b
69256	Leigh Road, Birmingham	WM9605	52.4	46.9	55.7	74.2	55.4	55.2	48.6	1,A,ii,a
69289	Warren Road, Washwood Heath, Birmingham	WM9605	52.4	46.9	55.7	74.2	55.4	55.2	48.6	1,A,i,a
69374	Washwood Heath Road, Birmingham	WM2802	61.6	56.1	66.2	71.6	63.8	62.2	58.5	2,A,ii,b
69609	Washwood Heath Road, Birmingham	WM2809	69.7	64.4	82.8	88.6	74.2	70.3	64.2	3,A,ii,b
69846	Warren Road, Washwood Heath, Birmingham	WM9605	52.4	46.9	55.7	74.2	55.4	55.2	48.6	1,A,ii,a
71826	Gravelly Industrial Park, Birmingham	Birmingham Noise Map and WM2907	70.0	66.0	74.2	78.6	70.0	70.0	66.0	6,A,i,c

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
72552	Gravelly Industrial Park, Birmingham	Birmingham Noise Map and WM2907	66.0	61.0	74.2	78.6	66.0	66.0	61.0	6,A,i,c
72891	Drews Lane, Birmingham	WM2708	69.6	61.3	82.1	84.7	69.8	68.4	61.3	2,A,ii,b
72929	Drews Lane, Birmingham	WM2708	69.6	61.3	82.1	84.7	69.8	68.4	61.3	2,A,ii,b
74077	Northleigh Road, Birmingham	WM2706	52.8	49.2	55.8	64.3	53.1	51.6	49.2	2,A,ii,b
74286	Drews Lane, Birmingham	WM2703	65.5	57.6	65.9	75.6	65.8	64.3	57.6	2,A,i,b
74502	Drews Lane, Birmingham	WM2703 and WM2704	65.5	58.1	74.6	84.0	65.8	64.3	58.1	2,A,i,b
75140	Drews Lane, Birmingham	WM9601	52.0	46.6	57.1	72.5	52.0	51.4	46.8	1,A,i,a
75527	Drews Lane, Birmingham	WM9601	52.0	46.6	57.1	72.5	52.0	51.4	46.8	1,A,ii,a
75599	Drews Lane, Birmingham	WM9601	52.0	46.6	57.1	72.5	52.0	51.4	46.8	1,A,ii,a
75669	Drews Lane, Birmingham	WM9601	52.0	46.6	57.1	72.5	52.0	51.4	46.8	1,A,ii,a
75715	Drews Lane, Birmingham	WM9601	52.0	46.6	57.1	72.5	52.0	51.4	46.8	1,A,i,a
75755	Drews Lane, Birmingham	WM2707	66.8	58.7	76.9	79.9	67.0	65.6	58.7	2,A,ii,b
75816	Drews Lane, Birmingham	WM2707	66.8	58.7	76.9	79.9	67.0	65.6	58.7	2,A,ii,b
75902	Drews Lane, Birmingham	WM2708	69.6	61.3	82.1	84.7	69.8	68.4	61.3	2,A,ii,b



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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
75944	Ingleton Road, Birmingham	WM2706	52.8	49.2	55.8	64.3	53.1	51.6	49.2	2,A,ii,b
76063	Drews Lane, Birmingham	WM2708	69.6	61.3	82.1	84.7	69.8	68.4	61.3	2,A,ii,b
700500	Bordesley Street, Birmingham	WM3601	57.3	52.5	64.3	86.0	60.2	57.3	56.3	1,A,ii,a
700501	Albert Street, Birmingham	WM3607	63.2	57.9	74.3	81.5	66.1	60.7	59.3	2,A,ii,b
700502	Etna Street, Birmingham	WM3608	53.3	48.9	60.1	61.2	56.2	50.7	50.3	2,A,i,b
700503	Moor Street Queensway, Birmingham	WM3607	63.2	57.9	74.3	81.5	66.1	60.7	59.3	2,A,ii,b
700504	Lawley Middleway, Birmingham	WM3504	61.8	50.8	60.4	69.4	64.7	59.1	51.1	2,A,ii,b
700505	Vauxhall Road, Birmingham	WM3501	55.6	50.8	60.5	85.2	58.5	52.9	51.1	1,A,ii,a
700506	Fazeley Street, Birmingham	Birmingham Noise Map and WM3601	58.0	51.0	64.3	86.0	58.0	58.0	51.0	6,A,iii,c
700507	Dollman Street, Birmingham	WM3501	55.6	50.8	60.5	85.2	58.5	52.9	51.1	1,A,ii,a
700508	Saltley Business Park, Dorset Road, Saltley, Birmingham	WM3402	64.5	56.9	72.2	77.2	64.8	62.3	56.8	2,A,ii,b
700509	Nechells Place, Birmingham	Birmingham Noise Map and WM2904	53.0	50.0	57.7	68.7	53.0	53.0	50.0	6,A,iii,c
700510	A47 Heartlands Parkway, Birmingham	WM2905 and WM2907	64.8	60.6	74.2	78.6	65.5	62.7	61.1	3,A,ii,b

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
700511	Aston Church Road, Birmingham	WM2811	67.5	57.0	73.7	77.0	72.0	68.2	56.9	3,A,ii,b
700513	Common Lane, Birmingham	WM9603	49.3	43.8	51.2	75.8	56.7	56.9	44.2	1,A,ii,a
700515	Drews Lane, Birmingham	WM2708	69.6	61.3	82.1	84.7	69.8	68.4	61.3	2,A,ii,b
700517	Drews Lane, Birmingham	WM2708	69.6	61.3	82.1	84.7	69.8	68.4	61.3	2,A,i,b
700518	Northleigh Road, Birmingham	WM2706	52.8	49.2	55.8	64.3	53.1	51.6	49.2	2,A,i,b
700519	Northleigh Road, Birmingham	WM2706	52.8	49.2	55.8	64.3	53.1	51.6	49.2	2,A,ii,b
701037	Malthouse Lane, Birmingham	WM2802	61.6	56.1	66.2	71.6	63.8	62.2	58.5	2,A,ii,b
701038	Malthouse Lane, Birmingham	WM2802	61.6	56.1	66.2	71.6	63.8	62.2	58.5	2,A,i,b
701039	Washwood Heath Road, Birmingham	WM2809	69.7	64.4	82.8	88.6	74.2	70.3	64.2	3,A,i,b
701040	Washwood Heath Road, Birmingham	WM2809	69.7	64.4	82.8	88.6	74.2	70.3	64.2	3,A,i,b
701041	Washwood Heath Road, Birmingham	WM2809	69.7	64.4	82.8	88.6	74.2	70.3	64.2	3,A,ii,b
701042	Washwood Heath Road, Birmingham	WM2809	69.7	64.4	82.8	88.6	74.2	70.3	64.2	3,A,ii,b
711011	Committed development CFA26/20	WM3601	57.3	52.5	64.3	86.0	60.2	57.3	56.3	1,A,iii,c
711030	Committed Development CFA26/021	WM3607	63.2	57.9	74.3	81.5	66.1	60.7	59.3	2,A,ii,c
711031	Committed Development CFA26/010	WM3607	61.4	57.9	74.3	81.5	64.0	58.5	59.3	2,A,ii,c
711044	Saltley Business Park, Birmingham	Birmingham Noise Map and	58.0	52.0	66.4	68.7	58.0	58.0	52.0	6,A,i,c

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Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding <sup>3</sup>
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening / Weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
		WM3412								
710304	Viaduct Street, Birmingham	Birmingham Noise Map and WM3201	62.0	59.0	60.2	65.3	62.0	62.0	59.0	6,A,i,c

Table 2: Data source coding key

Code	Data source type
1	Long-term measurement location.
2	Short-term (linked to simultaneous long-term).
3	Short-term (using profile from non-simultaneous long-term).
4	Short-term using standard (National Noise Incidence Study <sup>4</sup> or other) 24hr profile.
5	Specific validated prediction.
6	Predictions from other sources (Defra noise maps <sup>5</sup> , etc.).
7	Generic levels.

  

Code	Corrections applied
A	Data from above source applied directly.
B	Correction applied for screening.
C	Correction applied for distance from source.
D	Minimum level cut-off applied.

  

Code	Distance from measurement
i	Data applied from a measurement at or very close to the assessment location.
ii	Data applied from a local measurement location at a greater distance but noted to have equivalent acoustic climate.
iii	Data applied from a distant measurement location where sound levels would be expected to be similar.

  

Code	Uncertainty
a	Data are considered highly representative of the prevailing sound climate.
b	Data are considered representative of the prevailing sound climate, but variations in measured levels indicate that there may be a higher degree of uncertainty than for (a).
c	Data are considered to be an estimate of the sound climate, (e.g. taken from Defra noise maps, etc.).

### 3.3 Future baseline methodology

#### Construction

- 3.3.1 The assessment of noise from construction activities assumes a baseline year of 2017. As a conservative assumption, it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/13) and the future baseline year of 2017.

<sup>4</sup> Building Research Establishment (BRE) (2002), *National Noise Incidence Study 2000/2001*. BRE.

<sup>5</sup> Department for Environment, Food and Rural Affairs (Defra), *Noise Mapping England* [Online]. Available at: <http://services.defra.gov.uk/wps/portal/noise/> [accessed: 26 July 2013].

- 3.3.2 Due to the duration of the construction work and as the precise timing of the highest sound levels would be different in each location, using baseline sound levels for 2017 as the start of the construction period, provides a reasonable worst case assessment.
- 3.3.3 The assessment of construction traffic is based on future baseline traffic flows for 2021, as a year which is representative of the middle of the construction period.

## Operation

- 3.3.4 Changes in existing sound sources between 2012/2013 and 2026 may result in changes to baseline sound levels.
- 3.3.5 For major transportation sources, data for existing and future baseline operations have been reviewed. Where changes may occur between the existing baseline and future baseline (2026) situations, expected changes in baseline sound level have been derived. For example, expected changes in traffic flow, composition and speed have been used to calculate changes in sound emission from roads using the methodology from the Calculation of Road Traffic Noise<sup>6</sup>.
- 3.3.6 The changes to major sound sources which have been identified in this area are summarised in Table 3. Within Birmingham city centre, there are a large number of changes to traffic flows forecast. The data presented in Table 3 provides a summary of changes which may influence baseline sound levels at assessment locations

**Table 3: 2026 future baseline changes in sound sources**

Sound Source affected	Cause of change in levels	Change in sound levels (existing baseline to 2026 future baseline) (dB)	
		Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>
A47 Heartlands Parkway	Increased Traffic Flow	+1.1	+1.1
A4040 Bromford Lane	Increased Traffic Flow	+1.1	+1.1
Drews Lane	Increased Traffic Flow	+1.1	+1.1
Washwood Heath Lane	Increased Traffic Flow	+1.1	+1.1
Aston Church Road	Increased Traffic Flow	+1.1	+1.1
Arley Road	Increased Traffic Flow	+1.4	+1.4
B4114 Saltley Viaduct	Increased Traffic Flow	+1.1	+1.1
A47 Saltley Road	Increased Traffic Flow	+1.1	+1.1
B4132 Great Francis Street	Increased Traffic Flow	+1.2	+1.2
Duddeston Mill Road	Increased Traffic Flow	+1.1	+1.1
Adderley Road	Increased Traffic Flow	+1.1	+1.1
Curzon Street (between Cardigan Street and Lawley Middleway)	Increased Traffic Flow	+1.1	+1.1

<sup>6</sup> Department of Transport (DfT) (1988), *Calculation of Road Traffic Noise*. DfT

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Sound Source affected	Cause of change in levels	Change in sound levels (existing baseline to 2026 future baseline) (dB)	
		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$
Curzon Street (west of Cardigan Street)	Increased Traffic Flow	+2.0	+2.0
New Canal Street (north of Fazeley Street)	Increased Traffic Flow	+2.1	+2.1
New Canal Street (north of Fazeley Street)	Increased Traffic Flow	+3.0	+3.0
Bordesley Street (between New Canal Street and New Bartholomew Street)	Increased Traffic Flow	+1.8	+1.8
Albert Street	Increased Traffic Flow	+1.0	+1.0
Fazeley Street (west of New Canal Street)	Increased Traffic Flow	+2.1	+2.1
Fazeley Street (east of New Canal Street)	Increased Traffic Flow	+3.7	+3.7

## 4 References

Birmingham Noise Map (2005), electronic data provided by and used with permission of Birmingham City Council.

Building Research Establishment (BRE) (2002), *National Noise Incidence Study, 2000/2001*. BRE.

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Department of Transport (DfT) (1988), *Calculation of Road Traffic Noise*. DfT.